

ABSTRACT

5 A polymer gel electrolyte includes an electrolyte
solution composed of a plasticizer with at least two
carbonate structures on the molecule and an electrolyte
salt, in combination with a matrix polymer. Secondary
batteries made with the polymer gel electrolyte can operate
at a high capacitance and a high current, have a broad
10 service temperature range and a high level of safety, and
are thus particularly well-suited for use in such
applications as lithium secondary cells and lithium ion
secondary cells. Electrical double-layer capacitors made
with the polymer gel electrolyte have a high output voltage,
15 a large output current, a broad service temperature range
and excellent safety.